REMARKS

This Amendment and Response to Non-Final Office Action is being submitted in response to the non-final Office Action mailed January 25, 2006. Claims 1-21 are pending in the Application. Claims 1-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bai (U.S. Pat. No. 6,735,395) in view of Condict et al. (U.S. Pat. No. 5,978,155).

In response to this rejection, Claim 11 has been canceled and Claims 1 and 12 have been amended to further clarify the subject matter which Applicant regards as the invention, without prejudice or disclaimer to continued examination on the merits. These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Based upon the amendments, reconsideration of the Application is respectfully requested in view of the following remarks.

Rejection of Claims 1-21 Under 35 U.S.C. 103(a) – Bai in view of Condict et al.:

Claims 1-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bai (U.S. Pat. No. 6,735,395) in view of Condict et al. (U.S. Pat. No. 5,978,155).

Specifically, Examiner states that Bai teaches (in Figure 3) a method for coordinating channel power information in a wavelength division multiplexed optical communications system having at least a first and a second network element, the method comprising: gathering information on local communications assets local to the first network element including launch path power values and channel information of the plurality of wavelength division multiplexed channels output from the first network element (Col. 7, lines 32-37); determining channel weighting values for the plurality of wavelength division multiplexed channels output from the first network element based on the launch path power values and the channel information (Col. 5, line 65 to Col. 6, line 6), wherein at least one of said plurality of channel weighting values is different from the remainder of said plurality of channel weighting values (e.g., Col. 5, lines 11-15); and transmitting the channel weighting values from the first network element to the second network element.

Examiner further states in his Response to Arguments section of the Office Action that it is inherent that the power value of each WDM channel is different.

Claims 1 and 12 have been amended to further clarify the differences between the present invention and both Bai and Condict et al.

Claim 1 has been amended to recite:

> A method for coordinating channel power information in a wavelength division multiplexed optical communications system having at least a first and a second network element, the method comprising:
> gathering information on local communications assets local to the first network element including launch path power values and channel

information of the plurality of wavelength division multiplexed channels output from the first network element;

determining channel weighting values for the plurality of wavelength division multiplexed channels output from the first network element based on the launch path power values and the channel information, wherein at least one of said plurality of channel weighting values is different from the remainder of said plurality of channel weighting values;

storing the launch path power values, the channel weighting values, and the channel information in a database operatively connected to the first network element; and

transmitting the channel weighting values from the first network element to the second network element, and

said gathering step accessing the database to gather information on local communications assets local to the first network element.

Claim 12 has been amended to recite:

A method for using coordinated channel power information in a network element of a wavelength division multiplexed optical communications system carrying a plurality of channels, the method comprising:

receiving a plurality of channel weighting values and channel information for wavelength division multiplexed channels generated upstream of the network element wherein at least one of said plurality of channel weighting values is different from the remainder of said plurality of channel weighting values;

storing the channel weighting values and the channel information in a database operatively connected to the network element;

determining a set of in-view channels that are passing through a point in the network element based on the channel information;

calculating a reference value according to channel weighting values corresponding to the set of in-view channels; and

utilizing the reference value as a basis for managing at least a portion of the network element corresponding to the point though which the in-view channels pass.

Bai does not teach the step of storing the launch path power values, the channel weighting values, and the channel information in a database operatively connected to the first network element, nor is this deficiency remedied by Condict et al.

Applicant discloses a database that is operatively connected to a controller on each network element. A database is used for each controller such that there is a one-to-one correspondence between the controllers and databases. Each database stores topology information identifying the network elements in the transmission span and connections in between. Such stored database information includes a launch path power value, launch power settings, fixed attenuation values on the launch path, channel weighting values, updated channel weighting values and channel information. The data stored in the database is gathered by a controller accessing the database. Once the channel weighting values are stored in the database, the process transmits the channel weighting values and the channel information to a downstream network element and stored in the local database.

Bai does not teach the use of a database for storing the launch path power values, channel weighting values, and channel information as does the present invention. Furthermore, this deficiency is not remedied by Condict et al.

Additionally, in regard to the Examiner's remarks in the Response to Arguments section of the Office Action, noting that it is inherent that the power value of each WDM channel is different, Applicant seeks to clarify.

Applicant asserts that the varying power values described in Bai are the power values from individual channels, with channels having the same data transmission rate, of the WDM that are measured by a microprocessor and then compared to a pre-set value. Under these circumstances, wherein the environment is not a mixed channel environment, as described in the present application, it is inherent that the power value of each WDM channel is different. Bai states that the power values from individual channels of the WDM that are measured by a microprocessor and then compared to a pre-set value. The microprocessor then changes the optical attenuators so that the measured power directly corresponds to the pre-set value. Alternatively, the microprocessor can

change the setting of the driving current so as to set the correct power, again, corresponding to the pre-set value. This process is then repeated for every channel, so that every channel is stabilized to the same preset value. (Bai, Col. 5, lines 65 to Col. 6, line 7). The Bai method changes the varying power values to the same pre-set value, maintaining the flat power spectrum for channels operating at a given data transmission rate. In a flat power spectrum, "all of the channels of a WDM system are launched (transmitted or otherwise injected into an optical communications path) with the same power level." (U.S. Pat. App. Pub. No. 2003/0035170, paragraph 7.)

The present invention, however, also has different power levels, not because they are inherently different and are desired to have return to the original flat spectrum launch power level, but rather to account for intentionally launching different channels at different power levels in a mixed channel environment in order to accommodate varying data rates and signal formats.

The Applicant has found that there are benefits to having different launch powers for different channels. Channel power values used for amplifier power control may be weighted (e.g. the power value of a channel may be an integer multiple of a defined channel) to account for mixed channel plans. Channel powers may be weighted according to the data rate and the format of the signal. For example, a signal having a transmission rate of 2.5 Gbps may be used as a reference value with a weight of 1 channel unit; a signal having a 10 Gbps transmission rate using forward error correction may be weighted as 2 channel units, and a signal having a 10 Gbps transmission rate without forward error correction may be weighted as 4 channel units. (U.S. Pat. App. Pub. No. 2003/0035170, paragraph 8-10). This mixed-channel environment and weighting of values is not taught in Bai or Condit et al. Bai merely compares a measured power value with a pre-set value and makes changes when needed.

Applicant states that once provisioning occurs, the launch power of the channels is adjusted. This is accomplished by the controller accessing the launch power settings in

the database and controlling one or more of the variable optical attenuators according to those settings. Channel weighting values are then determined for each channel. Channel weighting values may be based on such factors as channel type, including data rate and format, equipment configuration, transmitter launch power, VOA settings, and other gain or loss elements in the signal launch path. In other words, the channel weighting determination may account for variable as well as fixed or provisioned attenuation values present on the signal launch path. In general, where the launch path power values include such fixed or provisioned attenuation values and launch power settings, the channel weighting value is a function of the launch path power value for that channel, channel type, data rate, and equipment configuration. (U.S. Pat. App. Pub. No. 2003/0035170, paragraph 54-57).

Bai does not teach the launching of different channels at different power levels to accommodate different data rate and signal formats. Furthermore, this deficiency is not remedied by Condict et al.

Claims 2-10 are dependent claims either directly or ultimately dependent on Claim 1. Claims 13-21 are dependent claims either directly or ultimately dependent on Claim 12. Claim 11 is canceled. Based on the same unique and novel features of the present invention as described above, namely that Claims 1 and 12, have unique and patentable novel features, it is respectfully asserted that these dependent claims are now in condition for allowance.

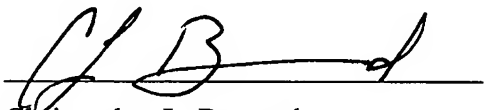
Therefore, Applicant submits that the rejection of Claims 1-21 under 35 U.S.C. 103(a) as being unpatentable over Bai (U.S. Pat. No. 6,735,395) in view of Condict et al. (U.S. Pat. No. 5,978,155) has now been traversed and respectfully requests that this rejection be withdrawn.

CONCLUSION

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

Date: April 24, 2006



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